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Fig. 1

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-9  cggtgaagaatggtgtatTTTTTaaatttcatgtcaataaccaatgtcccgggtgctgaag
      M V Y F L N F M S I T N V P V L K
52  cgcgcgcgactctacatggcgacgaatcgccggctggtggttgttcttgtggtgctgctg
      R A R L Y M A T N R R L V V V L V V L L
112 tactgggtggtccagaacgtttggacgtggagccctgggacgcgcgatttggcccaagtg
      Y W V V Q N V W T W S P G T R D L A Q V
172 gacgcgaagatcgaggccgagctaaactcgaatctacatacttttggagcgcatttgcgc
      D A K I E A E L N S N L H T F G A H L R
232 cacttaaaccggcttccggcagagtcggccaccctgcgtgaaaaactcaccttctatttc
      H L N R L P A E S A T L R E K L T F Y F
282 ccatattatcctgaaaagcccggtgccgaaccagatctggcagacatggaaggtcgatctc
      P Y Y P E K P V P N Q I W Q T W K V D L
352 gaagacgacaacttccccaaagcagtacagacgggttcagaagacgtgggtcgagaaaaat
      E D D N F P K Q Y R R F Q K T W V E K N
412 ccagactacgtgtaccacctgattccggactctgtgattgaggactttgtggcgagtttg
      P D Y V Y H L I P D S V I E D F V A S L
472 tacgcgaacgtgccggaggtggtcagagcgtaccagctgcttccgaaaaatatcatgaag
      Y A N V P E V V R A Y Q L L P K N I M K
532 gcggtatttttccggtatttgggtgatctacgcgcgcggaggcacctactcagacatggac
      A D F F R Y L V I Y A R G G T Y S D M D
592 acggtgtgtttaagccgatcaaggactgggccacgtttgatcgcgacctgatccacgct
      T V C L K P I K D W A T F D R D L I H A
652 gccgacaataagccgatctctccagatagatccagaagcaagaaccacgcctgtgggg
      A D N K A D L S Q I D P E A R T T P V G
712 ctggtgattggcattgaggccgaccggacaggcccgactggcacgagtggttctcgcg
      L V I G I E A D P D R P D W H E W F S R
772 agactgcagttctgccagtgagcatccaggcgaagccggacaccgcgtgctgcgcgag
      R L Q F C Q W T I Q A K P G H P L L R E
832 ctgatcatccgatcgtggaggagacgttccgcaaacagcacatgggcgttttgaaaaga
      L I I R I V E E T F R K Q H M G V L K R
892 gtggaaggcaaggactcgggcgcagatatcatgcagtggacaggaccggggatatttaca
      V E G K D S G A D I M Q W T G P G I F T
952 gacactctgtttgattatctgaacaatgtggcgagcgacggcaagttgggcgacgggtac
      D T L F D Y L N N V A S D G K L G D G Y
1012 ggcgtggggtcgttgatttggcgcaagcacggcaaatataagctgaaaaagacagaaatt
      G V G S L Y W R K H G K Y K L K K T E I
1072 aacaagaataacgagccattgcattctgaggaccagcttatcaactggaggtcgctgacc
      N K N N E P L H S E D Q L I N W R S L T
1132 aacatggacaagccaaagatcatgggggacgtaatggtgttaccaatcacgagcttttagt
      N M D K P K I M G D V M V L P I T S F S
1192 ccgaacgtggggcacatgggctcaaagagcagctcagataggctggcatttgtggagcat
      P N V G H M G S K S S S D R L A F V E H
1252 ttattttctggcagctggaagccaaaaaacaatataggaaaaataataattagctgcatt
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1312 ttagataattctcatgagcaggcacagaacg

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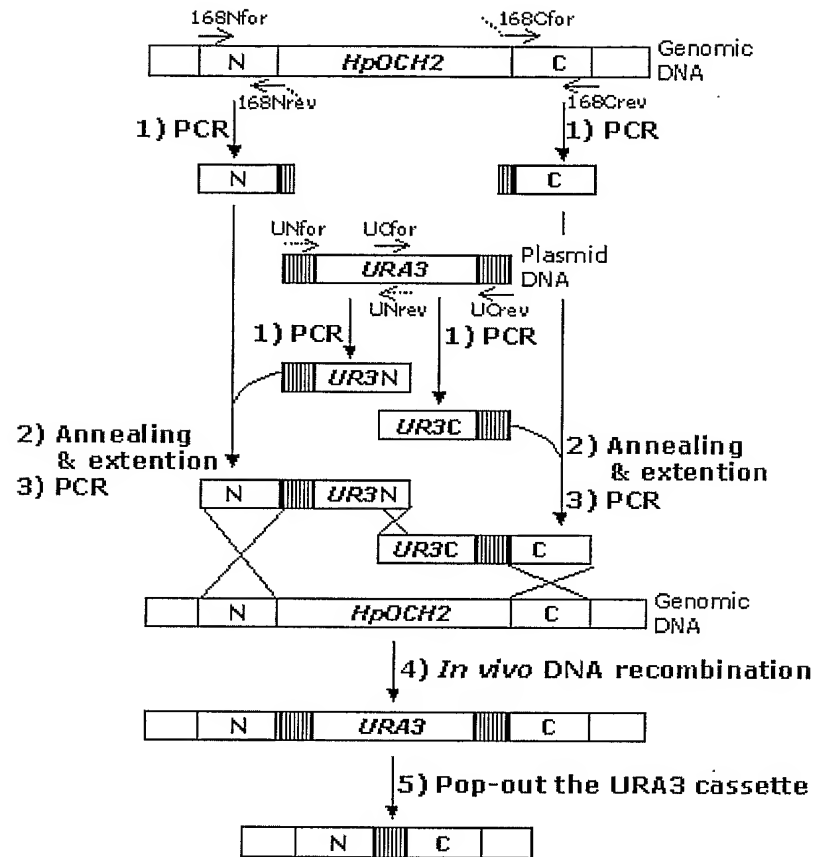
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Fig. 2

Hp0ch2p	1	-----MVFYLNFMSTITNVPVLKPARFYMAINRRLLVWVWVYVWV
Hp0chl1p	1	-----MSKASPYRGINSSTSPKPKKLSLPLGLL
Ca0chl1p	1	-----MLQLREPQMVHKKHLAVLGIWVIFTTYTNISS
Pp0chl1p	1	-----MAKADGLFYTNPHNPPRRYYFYAIFAV
Sc0chl1p	1	-----MSKKLHLIATRKSKTIWVTVWVYSL
Sp0chl1p	1	----MLRLRLRSIVIGAAIAGSILLLFNHGSIEGMDLTEISMLKDYCPREANKDYVGCQKEEENAYDQP
Hp0ch2p	42	QNVUTWSPGTRDLAQVDARIBARDN---SMLHTFGALIR-----HLNRLPARSATLRLRLGYPFY
Hp0chl1p	32	CLLLEKFKSTSWINTEDKIVSEYWN---NFYKLNPFRC-----ANPYDAAVTAKLAKFPFY
Ca0chl1p	35	SSPTSTHRTFYNSPKLQNAKRLRN---SNWRELGLNFPQ-----NKKYSLPDESTLRQQLGQFPFY
Pp0chl1p	30	VWCVLYGPSQLSSPKDYDPLTL---PSLDLKTLEAP-----SOLSPCTVEDNLRQLEHFPFY
Sc0chl1p	29	IFHLSNKRLLSFYPSKDDFKQTLPTTSHSQDINLKKQI-----TVNKKKNQLHNLRLQLSAFPFY
Sp0chl1p	67	EYEEEDPDLEAYLSDLEERLEHSLLELDENNYLHLRYSFSQLQDFDENRAVHNVPPDLEEEV
Hp0ch2p	100	Y-PEEPENQIQQTKQDLEDDNFPQENRQKRV-RMPDYVYHLPDQSVIEDFASTYAN--VPEV
Hp0chl1p	87	DNSANPEKSIQOQKWPSTPDPFKELVWKWNE---NPYKYNLITDDEILEKRIKDKT-VPEV
Ca0chl1p	94	D-ESLPPFKNLQTKWQCIDKSEPPRLKQQTDE-DNPDYREYVPPKQCDLAEQLYSQ--VPEVA
Pp0chl1p	88	R-SYEPFQHIQQTKKSPSSSFPNMDLGEGL-QESPDYDFPDPDAAWERHHHEVER--VPEV
Sc0chl1p	91	R-SOARLQKQOQTKGADKKNFSSATQKQSCSYSPDYSLHSDSIIPEENKAP--VPLV
Sp0chl1p	137	P-YHADLRLQKQTSROP-----HDNEVMKTRFR--INHESSEAGDDQSKALNISSGCDSSSKUS
Hp0ch2p	166	PAYCLLPKTLKADFFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Hp0chl1p	153	DAEELPMRLTSDDFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Ca0chl1p	160	PAYCLLPKTLKADFFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Pp0chl1p	154	DAEELPMRLTSDDFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Sc0chl1p	158	CAEELPMRLTSDDFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Sp0chl1p	200	CAYCLLPKTLKADFFRYLLEARGCYEDMDTCLKPTEDMAFDRLIHAADNK-----ADLSQI
Hp0ch2p	228	DPEARITPGLVIGLEADPDREDHNYRRLOFCQWTTQAKRCHPLRLRLDITWVETP
Hp0chl1p	204	WQVLEDDIMVDDHEMTTRRIQFQWTTQAKRCHPLRLRLDITWVETP
Ca0chl1p	214	RSCLVIGLEADPDREDHNYRRLOFCQWTTQAKRCHPLRLRLDITWVETP
Pp0chl1p	208	NAGLVIGLEADPDREDHNYRRLOFCQWTTQAKRCHPLRLRLDITWVETP
Sc0chl1p	228	SSDEISHQFGLVIGLEADPDREDHNYRRLOFCQWTTQAKRCHPLRLRLDITWVETP
Sp0chl1p	251	INLVIGLEADPDREDHNYRRLOFCQWTTQAKRCHPLRLRLDITWVETP
Hp0ch2p	289	QEMGVLRVVEGRDS---EADINQWTCGPIFTDTNRYEMNWD
Hp0chl1p	258	DKLQYYDFEGDDR---CASVDINQWTCGPIFTDTNRYEMNWD
Ca0chl1p	268	THRGQLKRVLGKNE---EGDINQWTCGPIFTDTNRYEMNWD
Pp0chl1p	262	ESRYLNVVEGRDR---CSVDINQWTCGPIFTDTNRYEMNWD
Sc0chl1p	298	SEMIDPRFEEDYNVNYHHRDEETYSHELKRNKRVGSDINQWTCGPIFTDTNRYEMNWD
Sp0chl1p	304	LHDSKRLSKNGES---ENRUTCGPIFTDTNRYEMNWD
Hp0ch2p	331	---CKIGDGYGVGSLYWRHGRKYLKRTIENKNNEPLHSEED---QVWVSLTNLKKKLCQDAVL
Hp0chl1p	307	DHQPDNAGELYC-----PETGCDLWVFFACHRAPVWDDVAVY
Ca0chl1p	310	PEGFKNKKK-----W---ATPDQWLFCTGQPIAADDVLVL
Pp0chl1p	304	---GHSCQIGCAGSAYNALSLEERDALSARPNGEHLKRVPCYAAQQLWQEQNTSPKADDVLVL
Sc0chl1p	368	LINPNVNMDEGESATTPARDVDNDTLSKSTRKPYRKISELOSNSWQEFPTFKERVADDVAVL
Sp0chl1p	341	-----FSEVNIENLSEYRSCDWLVL
Hp0ch2p	392	PITSFSPNMGAGSSSDNLAIVEHLFSGSMKPRNK-----
Hp0chl1p	348	PRASFREDK-----ENMCCGYCYWHEFGSGSMKMGKCEIKPGMEGYEGEDPNEVERLEKNDVSKRDVIP
Ca0chl1p	344	PITSFSPNMGAGSSSDNLAIVEHLFSGSMKMGKCEIKPGMEGYEGEDPNEVERLEKNDVSKRDVIP
Pp0chl1p	371	PITSFSPNMGAGSSSDNLAIVEHLFSGSMKMGKCEIKPGMEGYEGEDPNEVERLEKNDVSKRDVIP
Sc0chl1p	438	PITSFSPNMGAGSSSDNLAIVEHLFSGSMKMGKCEIKPGMEGYEGEDPNEVERLEKNDVSKRDVIP
Sp0chl1p	362	PITSFSPNMGAGSSSDNLAIVEHLFSGSMKMGKCEIKPGMEGYEGEDPNEVERLEKNDVSKRDVIP
Hp0ch2p		-----100%
Hp0chl1p	413	GESKDVAPVKKLAKRCAYPYTPY27.3%
Ca0chl1p		-----42.3%
Pp0chl1p		-----40.0%
Sc0chl1p		-----40.4%
Sp0chl1p		-----30.8%

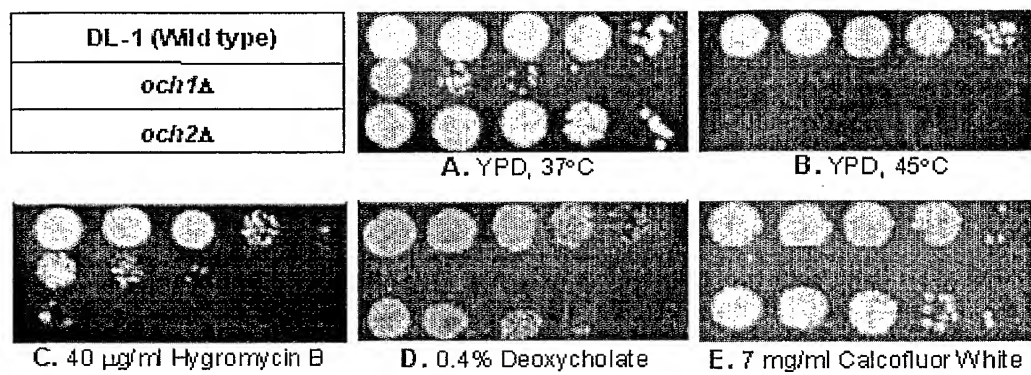
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Fig. 3



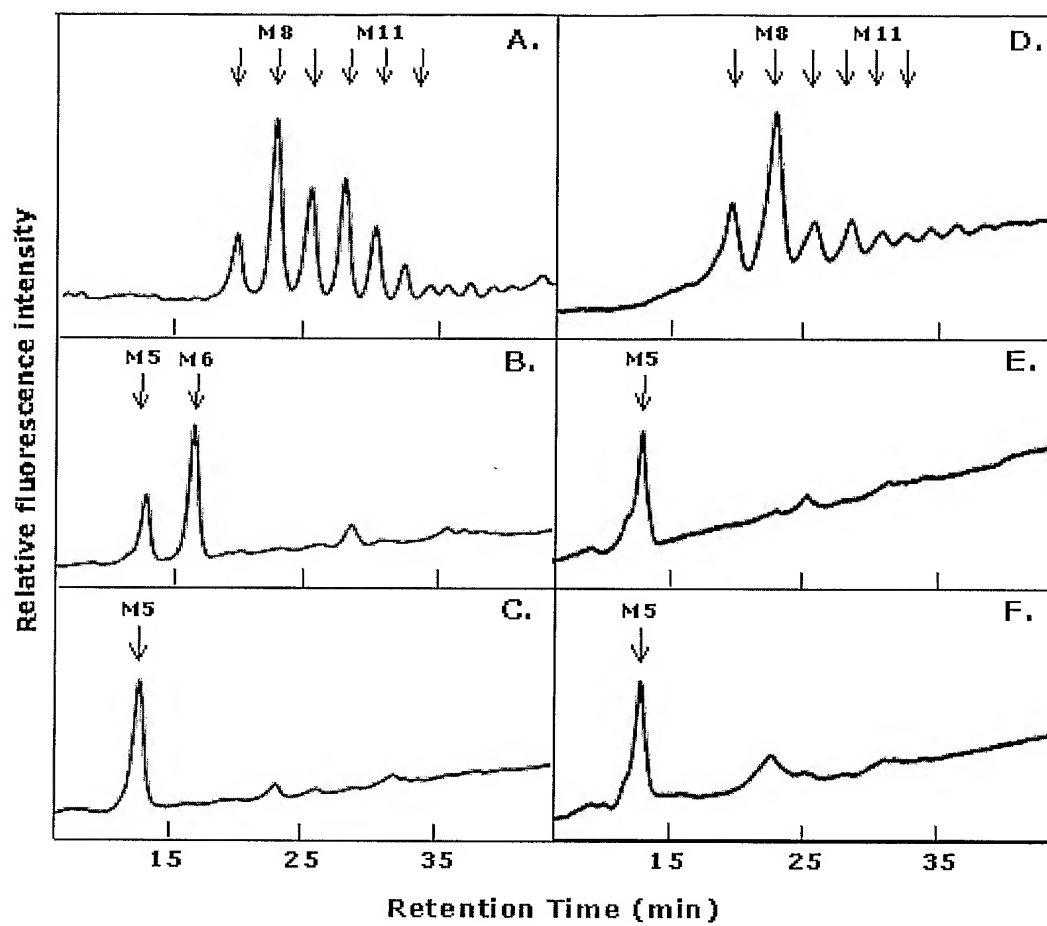
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Fig. 4



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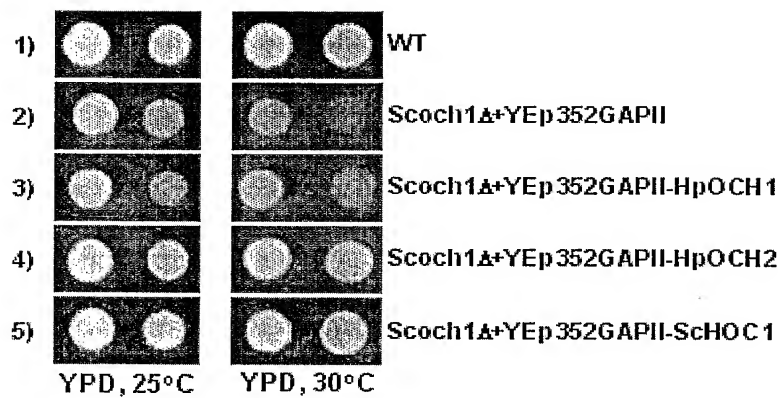
Fig. 5



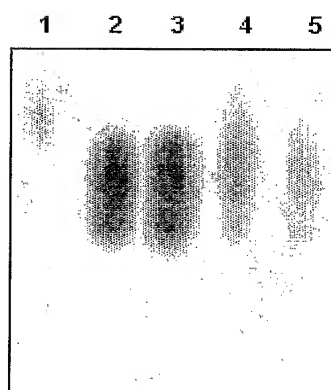
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Fig. 6

A.

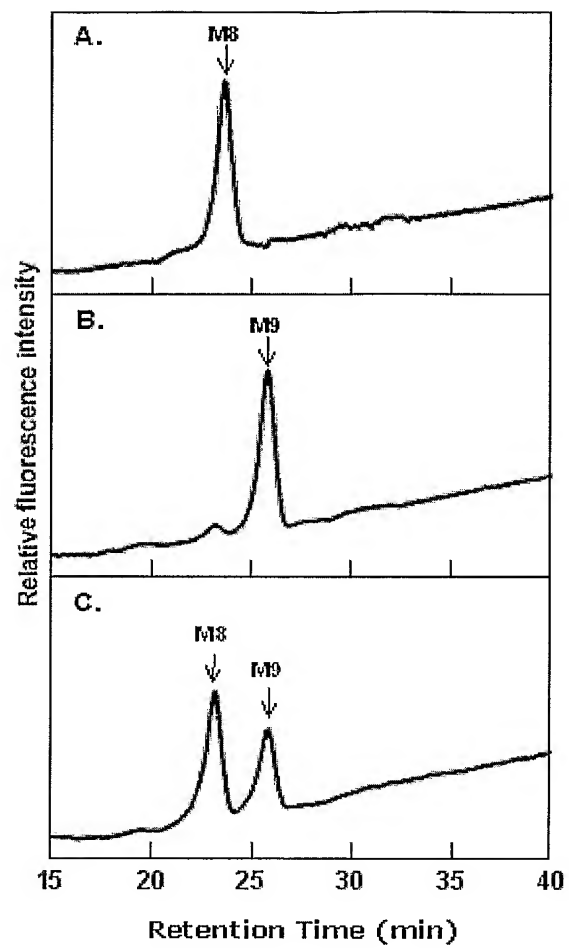


B.



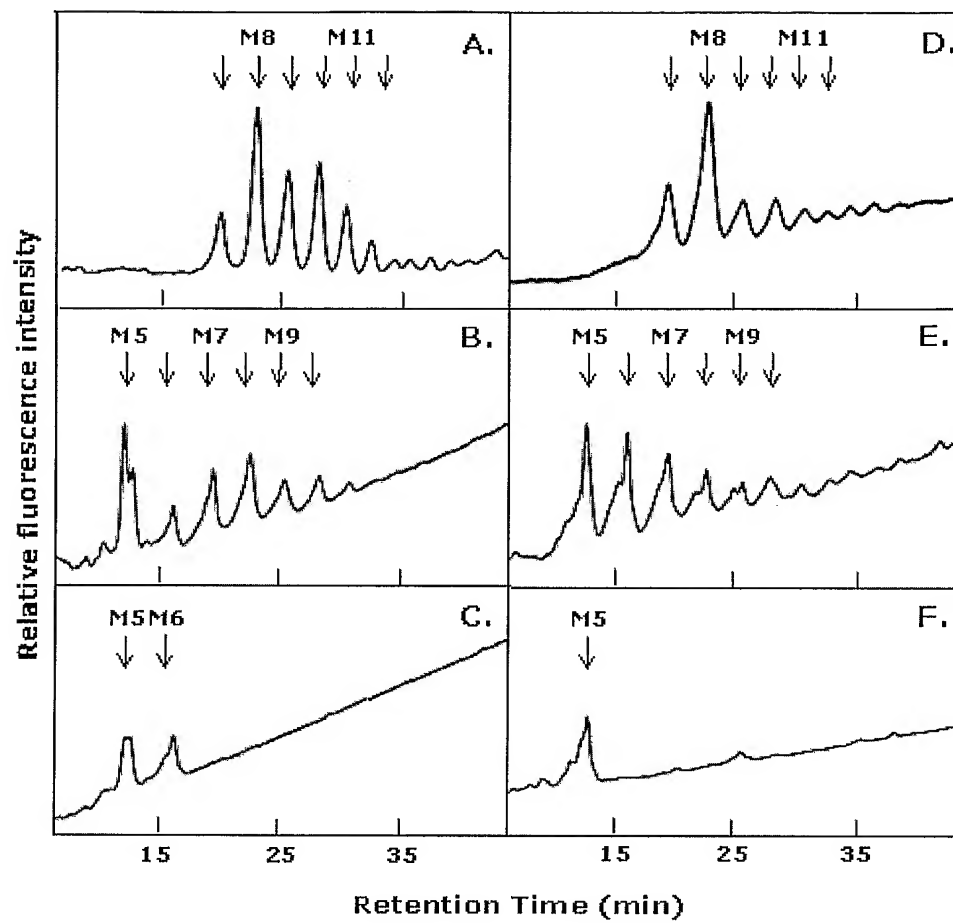
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Fig. 7



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Fig. 8





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Fig. 9

	ScHec1p	ScOchl1p	HpOchl1p	ORF379	ORF168	ORF288	ORF580	ORF100	ORF576
ScHec1p (396 aa)		20	21	40	23	18	19	18	17
ScOchl1p (480 aa)	36		22	24	37*	21	18	17	15
HpOchl1p (435 aa)	36	36		19	22	22	32	21	19
ORF379 (402 aa)	63	40	34		28	18	21	17	16
ORF168 (428 aa)	41	54*	39	45		21	21	20	17
ORF288 (414 aa)	35	36	40	34	40		21	51	33
ORF580 (362 aa)	34	36	48	35	39	40		20	19
ORF100 (425 aa)	34	33	37	33	36	66	38		32
ORF576 (369 aa)	30	31	33	30	32	50	33	47	

Similarity

Identity